

ABSTRACT

A pair of transmission lines (14), (15), one for a primary transmission line and the other a secondary transmission line, pass through remote stations (12) in opposite directions from/to a central station (11). Each remote station 12 has a switch for connecting the primary transmission line (14) to the secondary transmission line (15) based on control information from the central station (11) to form a small loop passing through the central station (11). A failed part is found by circulating a test cell from the central station (11) through the small loop, and then the remote station (12) adjacent to the failed part are controlled to form a turn-back loop to maintain the communication. After being recovered from the failure, the turn-back loop is canceled based on control information from the central station (11), and the system including the recovered remote station (12) to the initial one.